Amendment to the Claims

1. (Previously Presented) A transducer comprising:

a plurality of solid layers, including a magnetically soft loop substantially encircling an electrically conductive coil section and terminating in leading and trailing magnetically soft layers separated by an amagnetic gap layer, said trailing magnetically soft layer being oriented substantially perpendicular to said amagnetic layer, wherein said trailing magnetically soft layer has a width measured in a direction substantially parallel to said amagnetic layer, said width being less than about two hundred nanometers and greater than about twenty angstroms.

2-11. (Canceled)

12. (Previously Presented) A transducer for an information storage system, the transducer comprising:

a plurality of solid layers, including a magnetoresistive sensor layer and a magnetically soft loop substantially encircling an electrically conductive coil section and terminating adjacent a media-facing surface in leading and trailing magnetically soft layers separated by an amagnetic gap layer, said trailing magnetically soft layer being oriented substantially perpendicular to said magnetoresistive sensor layer and having a width measured in a direction substantially parallel to said magnetoresistive sensor layer, said width being less than about two hundred nanometers and greater than about twenty angstroms.

13-81. (Canceled)

82. (Previously Presented) The transducer of claim 1, wherein a distance between said magnetically soft layers is not substantially greater than said width.

83. (Previously Presented) The transducer of claim 1, wherein said trailing magnetically soft layer has a length measured in a direction substantially perpendicular to said amagnetic layer, with said length being at least six times greater than said width.

84. (Previously Presented) The transducer of claim 1, wherein said trailing magnetically soft layer contains a refractory metal.

85. (Previously Presented) The transducer of claim 1, wherein said trailing magnetically soft layer contains material having a B_s higher than that of Permalloy.

86. (Previously Presented) The transducer of claim 1, wherein said leading magnetically soft layer is substantially perpendicular to said trailing magnetically soft layer.

87. (Previously Presented) The transducer of claim 1, wherein said trailing magnetically soft layer contains vacuum-deposited material.

88. (Previously Presented) The transducer of claim 1, further comprising a magnetoresistive sensor layer disposed adjacent said leading magnetically soft layer and oriented substantially perpendicular to said trailing magnetically soft layer.

89. (Previously Presented) The transducer of claim 1, wherein said magnetically soft loop includes a magnetically soft trailing yoke layer that adjoins said trailing magnetically soft layer.

90. (Previously Presented) The transducer of claim 89, wherein said trailing yoke layer extends further in said direction substantially parallel to said amagnetic layer than in a direction substantially perpendicular to said amagnetic layer and aligned with said leading and trailing magnetically soft layers.

91. (Previously Presented) The transducer of claim 12, wherein said trailing magnetically soft layer is substantially perpendicular to said amagnetic layer.

92. (Previously Presented) The transducer of claim 12, wherein said trailing magnetically soft layer is substantially perpendicular to said leading magnetically soft layer.

93. (Previously Presented) The transducer of claim 12, wherein said trailing magnetically soft layer has a length measured in a direction substantially perpendicular to said magnetoresistive sensor layer, with said length being at least six times greater than said width.

94. (Currently Amended) The transducer of claim 12, wherein ~~said width of~~ said trailing magnetically soft layer ~~is less than about two hundred nanometers~~ is laminated.

95. (Previously Presented) The transducer of claim 12, wherein said width of said trailing magnetically soft layer is not substantially greater than a thickness of said amagnetic layer.

96. (Previously Presented) The transducer of claim 12, wherein said trailing magnetically soft layer contains material having a B_s higher than that of Permalloy.

97. (Previously Presented) The transducer of claim 12, wherein said trailing magnetically soft layer contains a refractory metal.

98. (Previously Presented) The transducer of claim 12, wherein said trailing magnetically soft layer is sputter-deposited.

99. (Previously Presented) The transducer of claim 12, wherein said leading magnetically soft layer is sputter-deposited.

100. (Previously Presented) The transducer of claim 12, wherein said magnetically soft loop includes a magnetically soft trailing yoke layer that adjoins said trailing magnetically soft layer.

101. (Previously Presented) The transducer of claim 100, wherein said trailing yoke layer extends further in said direction substantially parallel to said magnetoresistive sensor layer than in a direction substantially perpendicular to said magnetoresistive sensor layer and aligned with said leading and trailing magnetically soft layers.

102-120. (Canceled)

121. (Previously Presented) A transducer comprising:

a magnetoresistive sensor layer,

a magnetically soft loop disposed adjacent to said magnetoresistive sensor layer, traversed by an electrically conductive coil section and including magnetically soft leading and trailing pole-tips disposed adjacent to a media-facing surface, said trailing pole-tip aligned with said magnetoresistive sensor layer along a longitudinal direction and having a width measured in a track-width direction that is perpendicular to said longitudinal direction, said longitudinal and track-width directions being substantially parallel to said media-facing surface, said width being less than two hundred nanometers and greater than twenty angstroms.

122. (Previously Presented) The transducer of claim 121, wherein said trailing pole-tip has a length measured in said longitudinal direction, said length being at least five times greater than said width.

123. (Previously Presented) The transducer of claim 121, wherein said leading and trailing pole-tips are separated by a submicron nonferromagnetic gap layer.

124. (Previously Presented) The transducer of claim 121, wherein said trailing pole-tip consists essentially of sputtered material.

125. (Previously Presented) The transducer of claim 121, wherein said trailing pole-tip contains material having a B_s higher than that of Permalloy.

126. (Previously Presented) The transducer of claim 121, wherein said magnetically soft loop includes a magnetically soft yoke layer adjoining said trailing pole-tip.

127. (Previously Presented) The transducer of claim 126, wherein said yoke layer extends further in said track-width direction than in said longitudinal direction.

128. (Withdrawn) A transducer comprising:

a magnetoresistive sensor layer,

a magnetically soft loop disposed adjacent to said magnetoresistive sensor layer, substantially encircling an electrically conductive coil section and terminating adjacent a media-facing surface in magnetically soft first and second pole-tips, said second pole-tip aligned with said magnetoresistive sensor layer along a longitudinal direction, having a width measured in a track-width direction that is perpendicular to said longitudinal direction and substantially parallel to said media-facing surface, and having a face adjacent said media-facing surface, said width not exceeding four hundred nanometers at any part of said face.

129. (Withdrawn) The transducer of claim 128, wherein said second pole-tip has a length measured in said longitudinal direction, said length being at least five times greater than said width.

130. (Withdrawn) The transducer of claim 128, wherein said first and second pole-tips are separated by a submicron nonferromagnetic gap layer.

131. (Withdrawn) The transducer of claim 128, wherein said second pole-tip consists essentially of sputtered material.

132. (Withdrawn) The transducer of claim 128, wherein said second pole-tip contains material having a B_s higher than that of Permalloy.

133. (Withdrawn) The transducer of claim 128, wherein said magnetically soft loop includes a magnetically soft yoke layer adjoining said second pole-tip.

134. (Withdrawn) The transducer of claim 133, wherein said yoke layer extends further in said track-width direction than in said longitudinal direction.

135-141. (Canceled)

142. (New) The transducer of claim 1, wherein said trailing magnetically soft layer is laminated.

143. (New) The transducer of claim 121, wherein said trailing magnetically soft layer is laminated.

144. (New) A disk drive comprising:

a rigid magnetic disk, and

a magnetic head disposed adjacent to the disk, the head including a magnetically soft loop substantially encircling an electrically conductive coil section and terminating in leading and trailing magnetically soft layers separated by an amagnetic gap layer, one of said magnetically soft layers being oriented substantially perpendicular to said amagnetic layer, wherein said one magnetically soft layer has a width measured in a direction substantially parallel to said amagnetic layer, said width being less than about two hundred nanometers and greater than about twenty angstroms.

145. (New) The disk drive of claim 144, wherein a distance between said magnetically soft layers is not substantially greater than said width.

146. (New) The disk drive of claim 144, wherein said trailing magnetically soft layer has a length measured in a direction substantially perpendicular to said amagnetic layer, with said length being at least six times greater than said width.

147. (New) The disk drive of claim 144, wherein said trailing magnetically soft layer contains a refractory metal.

148. (New) The disk drive of claim 144, wherein said trailing magnetically soft layer contains material having a B_s higher than that of Permalloy.

149. (New) The disk drive of claim 144, wherein said leading magnetically soft layer is substantially perpendicular to said trailing magnetically soft layer.

150. (New) The disk drive of claim 144, wherein said trailing magnetically soft layer contains vacuum-deposited material.

151. (New) The disk drive of claim 144, further comprising a magnetoresistive sensor layer disposed adjacent said leading magnetically soft layer and oriented substantially perpendicular to said trailing magnetically soft layer.

152. (New) The disk drive of claim 144, wherein said magnetically soft loop includes a magnetically soft trailing yoke layer that adjoins said trailing magnetically soft layer.

153. (New) The disk drive of claim 144, wherein said trailing magnetically soft layer is laminated.

154. (New) A disk drive comprising:

a rigid magnetic disk, and

an electromagnetic transducer disposed adjacent to said disk, the transducer including a magnetoresistive sensor layer, and a magnetically soft loop disposed adjacent to said magnetoresistive sensor layer, traversed by an electrically conductive coil section and including magnetically soft leading and trailing pole-tips disposed adjacent to a media-facing surface, said trailing pole-tip aligned with said magnetoresistive sensor layer along a longitudinal direction and having a width measured in a track-width direction that is perpendicular to said longitudinal direction, said longitudinal and track-width directions being substantially parallel to said media-facing surface, said width being less than two hundred nanometers and greater than twenty angstroms.

155. (Previously Presented) The transducer of claim 154, wherein said trailing pole-tip has a length measured in said longitudinal direction, said length being at least five times greater than said width.

156. (Previously Presented) The transducer of claim 154, wherein said leading and trailing pole-tips are separated by a submicron nonferromagnetic gap layer.

157. (Previously Presented) The transducer of claim 154, wherein said trailing pole-tip consists essentially of sputtered material.

158. (Previously Presented) The transducer of claim 154, wherein said trailing pole-tip contains material having a B_s higher than that of Permalloy.

159. (Previously Presented) The transducer of claim 154, wherein said magnetically soft loop includes a magnetically soft yoke layer adjoining said trailing pole-tip.

160. (Previously Presented) The transducer of claim 159, wherein said yoke layer extends further in said track-width direction than in said longitudinal direction.